

Having described the invention, what is claimed is:

1 1. An assembly forming a seal with a built-in multi-pole magnetic encoder, intended
2 to be mounted between a stationary support and a rotating support forming part of a rolling
3 bearing, the assembly comprising:

4 a stationary armature secured to a stationary support; and
5 a moving armature bearing the encoder and secured to the rotating support;
6 the assembly being capable of having no means allowing the association of a sensor
7 past which the encoder can move;

8 wherein the multi-pole magnetic encoder comprises a low even number of poles to
9 allow an exterior lateral face of the stationary armature to be distanced from the sensor such
10 that magnetic flux of the encoder may be detected by the sensor through the stationary
11 armature.

1 2. An assembly according to claim 1, further comprising a seal secured to the
2 stationary armature, the seal comprising at least one dynamic means such as a lip rubbing
3 against the rotating support, the seal having no static sealing heel.

1 3. An assembly according to claim 1, further comprising a seal that covers an
2 exterior lateral face of a seal support wall of the stationary armature, the seal comprising a
3 static sealing heel in contact with an upper exterior lateral wall of the stationary support, and
4 at least one dynamic sealing means running against the rotating support.

1 4. An assembly according to claim 1, wherein the moving armature comprises a
2 first wall and a third wall which is offset axially toward the exterior with respect to the first
3 wall, the first wall being connected via a connection fillet to a first cylindrical surface by
4 which the moving armature bears against the moving support, the third wall bearing the
5 magnetic encoder.

1 5. An assembly according to claim 4, wherein the moving armature comprises a base
2 piece that has a cutout forming a fourth radial annular wall, offset toward the exterior, coated
3 in the material of which the magnetic encoder is made.

1 6. An assembly according to claim 1, wherein a first annular wall and a second
2 annular wall of the moving armature form an annular groove with an opening facing toward
3 the exterior.

1 7. An assembly according to claim 6, wherein the annular groove in axial section
2 exhibits a U-shaped or pseudo-U-shaped or V-shaped or pseudo-V-shaped profile.

1 8. An assembly according to claim 7, wherein the exterior lateral face of the groove
2 comprises bearing surfaces for at least one dynamic sealing lip.

1 9. An assembly according to claim 1, wherein the encoder comprises a disk made of
2 an elastomer filled with strontium ferrite or with barium ferrite.

1 10. An assembly according to claim 1, having a seal comprising, starting from the
2 stationary support and working toward the rotating support: a static sealing heel; an annular
3 band; and at least one dynamic seal lip.

1 11. An assembly according to claim 10, wherein a dynamic sealing lip bears against
2 an exterior lateral face of the rotating support.

1 12. An assembly according to claim 1, in combination with a sealed rolling bearing
2 comprising a stationary support or ring and a rotating support or ring.

1 13. An assembly in combination with a rolling bearing according to claim 12, wherein
2 an exterior lateral surface of the stationary armature is offset toward the interior with respect
3 to a plane tangential to exterior lateral faces of the bearing support or ring.

1 14. An assembly in combination with a rolling bearing according to claim 12, wherein
2 an exterior lateral surface of the stationary armature is practically contained in a plane
3 tangential to the exterior lateral faces of the bearing supports or rings.

1 15. An assembly in combination with a rolling bearing according to claim 12, further
2 comprising a sensor of the magneto resistor or Hall-effect probe type, characterized in that
3 with the number of pairs of poles fixed at the lowest possible value N for a given air gap, an
4 electronic circuit coupled to the sensor maintains a signal quality identical to the quality that
5 could have been obtained with an encoder comprising a number of pairs of poles equal to $2N$.